

REMARKS

Favorable reconsideration, reexamination, and allowance of the present patent application are respectfully requested in view of the foregoing amendments and the following remarks.

I. CLAIM STATUS & AMENDMENTS

As correctly stated in the Office Action Summary, claims 1-23 and 27-34 were pending in this application when last examined. Claims 1-7, 15-23, and 28-34 have been withdrawn as being drawn to a non-elected invention. Claims 8-14 and 27 have been examined on the merits, and stand rejected. The present amendment adds new claims 35-44. The present amendment also cancels claims 8-14 and 27 without prejudice or disclaimer thereto. Applicants reserve the right to file a continuation or division application on any canceled subject matter.

Claims 1-7, 15-23, and 28-44 are pending in this application.

New claims 35-44 correspond to original claims 8-14, 24, and 27. Accordingly, support for new claims 35-44 can be found in original claim 8-14, 24, and 27, respectively. In addition, to support in the original claims, the following Tables point to the support in the Specification for the additional terms in the new claims.

New Claim 35		
Support for new claim 35 can be found in original claim 8 and in the Specification as set forth below:		
Added terms in new claim 35		Location of support in the Specification
1	R ¹ is trimethylene optionally substituted with *1	Page 6, line 10; page 8, lines 12 and 26
2	R ⁶ is C1-C10 alkoxy	Page 4, line 22; page 10, lines 2-3
3	R ⁶ is C1-C10 alkylthio	Page 4, line 22; page 10, lines 8-9
4	R ⁶ is C6-C14 aryl-C1-C10 alkyloxy optionally substituted with the recited substituents	Page 5, line 1; page 10, line 23-26, page 11, lines 3-4
5	R ⁶ is C6-C14 aryl-C1-C10 alkylthio optionally substituted with the same substituents as 4	Page 5, line 2; page 11, lines 8-9
6	R ⁶ is C1-C10 alkyloxy-C1-C10 alkyl	Page 5, line 2; page 11, lines 21-22
7	R ⁶ is C1-C10 alkylthio-C1-C10 alkyl	Page 5, line 2; page 11, line 27 to page 12, line 1
8	R ⁶ is C1-C10 alkyl substituted with amino optionally substituted with C1-C10 alkyl or acyl	Page 5, line 3; page 12, line 8; page 10, line 14
9	R ³ and R ⁴ is C1-C10 alkyl	Page 5, line 6; page 9, line 24
10	R ³ and R ⁴ is C1-C10 alkoxy	Page 5, line 6; page 10, lines 2-3

11	R ³ and R ⁴ is C1-C10 alkylthio	Page 5, line 6; page 10, lines 8-9
12	R ³ and R ⁴ is amino optionally substituted with C1-C10 alkyl or acyl	Page 5, line 6; page 10, line 14.
13	R ³ and R ⁴ is C6-C14 aryl optionally substituted with the same substituents as 4	Page 5, lines 6-7; page 10, line 23
14	R ³ and R ⁴ is C6-C14 aryloxy optionally substituted with the same substituents as 4	Page 5, line 7; page 15, lines 12-13
15	R ³ and R ⁴ is C3-C7 cycloalkyl	Page 5, line 7; page 15, line 16
16	R ³ and R ⁴ is C1-C10 alkyl	Page 5, line 6; page 9, line 24
17	R ³ and R ⁴ is halo C1-C10 alkoxy	Page 5, line 8; page 15, lines 25-26
18	R ³ and R ⁴ is carbamoyl optionally substituted with C1-C10 alkyl or acyl	Page 5, line 8; page 16, lines 2-3
19	R ³ and R ⁴ is C1-C10 alkoxycarbonyl	Page 5, line 9; page 16, line 8
20	R ³ and R ⁴ is C1-C10 alkylsulfinyl	Page 5, line 9; page 16, lines 10-11
21	R ³ and R ⁴ is C1-C10 alkylsulfonyl	Page 5, line 9, page 16, lines 12-13
22	R ³ and R ⁴ is C1-C10 alkoxy-C1-C10 alkyl	Page 5, line 9; page 11, lines 3-4
23	R ³ and R ⁴ is C1-C10 alkylthio-C1-C10 alkyl	Page 5, line 9; page 11, line 27 to page 12, line 1
24	R ³ and R ⁴ is C1-C10 alkyl substituted with amino optionally substituted with C1-C10 alkyl or acyl	Page 5, line 10; page 10, line 18
25	R ³ and R ⁴ is C1-C10 alkoxy-C1-C10 alkoxy	Page 5, line 10; page 12, lines 12-13
26	R ³ and R ⁴ is C1-C10 alkylthio-C1-C10 alkoxy	Page 5, line 10; page 12, lines 16-17
27	R ³ and R ⁴ is C1-C9 heteroaryl having one to four nitrogen, oxygen and/or sulfur atoms optionally substituted with the same substituents as 4	Page 5, line 11; page 12, lines 20-21
28	R ³ and R ⁴ is C1-C9 non-aromatic heterocyclic group having one to four nitrogen, oxygen, and/or sulfur atoms optionally substituted with the same substituents as 4	Page 5, lines 11-12; page 16, lines 14-16
29	R ³ and R ⁴ is C1-C10 alkoxyimino-C1-C10 alkyl	Page 5, line 12; page 16, lines 23-24
30	R ^H is C1-C10 alkyl	Page 5, line 13; page 9, line 24
31	R ^H is C6-C14 aryl optionally substituted with the same substituents as 4	Page 5, line 13; page 10, lines 23-24
32	R ^H is C1-C9 non-aromatic heterocyclic group having one to four nitrogen, oxygen, and/or sulfur atoms optionally substituted with the same substituents as 4	Page 5, lines 11-12; page 16, lines 14-16
33	R ³ and R ⁴ taken together is C2-C10 alkylenedioxy	Page 5, line 15; page 8, line 9

34	A is benzene optionally substituted with the same substituents as 4	Page 5, line 15-17; page 7, line 2
35	Provided that when R ⁵ is 0 and R ⁶ is C1-C10 alkoxy, R is not unsubstituted trimethylene	

New Claim 36

Support for new claim 36 can be found in original claim 9 and in the Specification as set forth below:

Added terms in new claim 36		Location of support in the Specification
1	Hydrate	Page 26, lines 6-8

New Claim 37

Support for new claim 37 can be found in original claim 10 and in the Specification as set forth below:

Added terms in new claim 37		Location of support in the Specification
1	R ¹ is trimethylene optionally substituted with C1-C6 alkyl or C2-C6 alkylene	Page 6, line 10; page 8, lines 12 and 26; page 9, line 24
2	Hydrate	Page 26, lines 6-8

New Claim 38

Support for new claim 38 can be found in original claim 11 and in the Specification as set forth below:

Added terms in new claim 38		Location of support in the Specification
1	R ¹ is trimethylene substituted with C2-C6 alkylene or optionally substituted with C1-C6 alkyl	Page 6, line 10; page 8, lines 12 and 26; page 9, line 24
2	Hydrate	Page 26, lines 6-8

New Claim 39

Support for new claim 39 can be found in original claim 12 and in the Specification as set forth below:

Added terms in new claim 39		Location of support in the Specification
1	R ⁶ is C1-C10 alkoxy or C1-C10 alkylthio	Page 4, line 22; page 10, lines 2-3 and 8-9
2	Hydrate	Page 26, lines 6-8

New Claim 40

Support for new claim 40 can be found in original claim 13 and in the Specification as set forth below:

Added terms in new claim 40		Location of support in the Specification
1	R ³ and R ⁴ is C1-C10 alkyl	Page 5, line 6; page 9, line 24

2	R ³ and R ⁴ is C1-C10 alkoxy	Page 5, line 6; page 10, lines 2-3
3	R ³ and R ⁴ is C1-C10 alkylthio	Page 5, line 6; page 10, lines 8-9
4	A is benzene optionally substituted with the same substituents as 4 in claim 35 above	Page 5, line 15-17; page 7, line 2
5	A is naphthalene optionally substituted with the same substituents as 4 in claim 35 above	Page 5, line 15-17; page 7, line 2

New Claim 41		
Support for new claim 41 can be found in original claim 14 and in the Specification as set forth below:		
Added terms in new claim 41		Location of support in the Specification
1	Hydrate	Page 26, lines 6-8

New Claim 43		
Support for new claim 43 can be found in original claim 27 and in the Specification as set forth below:		
Added terms in new claim 43		Location of support in the Specification
1	R ¹ is trimethylene substituted with C2-C6 alkylene or optionally substituted with C1-C6 alkyl	Page 6, line 10; page 8, lines 12 and 26; page 9, line 24
2	R ⁶ is C1-C10 alkoxy	Page 4, line 22; page 10, lines 2-3
3	R ⁶ is C1-C10 alkylthio	Page 4, line 22; page 10, lines 8-9
4	R ⁶ is C6-C14 aryl-C1-C10 alkyl optionally substituted with the same substituents as 4 in claim 35 above	Page 5, line 1; page 10, line 23-26
5	R ⁶ is C6-C14 aryl-C1-C10 alkylthio optionally substituted with the same substituents as 4 in claim 35 above	Page 5, line 2; page 11, lines 8-9
6	R ⁶ is C1-C10 alkyloxy-C1-C10 alkyl	Page 5, line 2; page 11, lines 21-22
7	R ⁶ is C1-C10 alkylthio-C1-C10 alkyl	Page 5, line 2; page 11, line 27 to page 12, line 1
8	R ⁶ is C1-C10 alkyl substituted with amino optionally substituted with C1-C10 alkyl or acyl	Page 5, line 3; page 12, line 8; page 10, line 14
9	A is benzene optionally substituted with *2	Page 5, line 15-17; page 7, line 2
10	Hydrate	Page 26, lines 6-8

Therefore, in view of the above, no new matter has been added by this amendment.

II. APPLICANTS' PRIORITY

According to the Examiner, the instant application contains a copy of International application No. PCT/JP00/06185, but does not contain a certified copy of the Japanese priority application, JP-11-260780. See August 6, 2003 Office Action page 4. A copy will be filed in due course.

III. REJECTION UNDER 35 U.S.C. § 112, FIRST AND SECOND PARAGRAPHS

Claim 8 is rejected under 35 U.S.C. § 112, first paragraph. See August 8, 2003 Office Action, page 2. In this regard, the Examiner takes the position that “[a]l kyl, alone or in a combined term, is not limited from infinity, nor is aryl.” The Examiner further contends that it is unclear as to what “optionally substituted” means. The Examiner further contends that that “heteroaryl or aromatic heterocyclic stagger the mind” and it is unclear as to what is intended.

Regarding the Examiner’s concern about the terms “alkyl”, “aryl”, “optionally substituted”, “heteroaryl” and “non-aromatic heterocyclic group”, Applicants submit that the present amendment obviates this rejection. In this regard, the present amendment cancels the previous claims and adds new claims that contain recitations defining these terms in accordance with the support at pages 8-17 of the Specification. For instance, the new claims are “not limited from infinity” in that the new claims now recite the specific number of carbons for specific compounds.

Furthermore, as to the term “optionally substituted”, the newly added claims specifically recite what the compounds are “optionally substituted” to. It is well settled that the term “optionally” is acceptable claim language if there is no ambiguity as to which alternatives are covered by the claim. See M.P.E.P. § 2173.05(h); Ex parte Cordova, 10 U.S.P.Q.2d 1949 (Bd. Pat. App. & Inter. 1989). Since the new claims specifically recite what the compounds are “optionally substituted”, there is no ambiguity as to the alternatives covered by the claim.

The Examiner takes the position that the terms “prodrug” and “solvate” as used throughout the claims are vague and indefinite. Applicants submit that the Specification clearly defines these terms. For instance, the Specification at page 24, line 23 to page 25, line 11, describes the term “prodrug” and even provides a method for preparing such, *i.e.*, “by introducing a leaving group to substituents on ring A.” Similarly, the Specification at pages 26, lines 6-8 defines the term “solvate.” Nonetheless, for the sole purpose of expediting prosecution

and not to acquiesce to the rejection, the newly added claims do not contain these terms. Thus, the present amendment obviates the Examiner's concern.

Claim 9 stands rejected for the same reasons as claim 1 regarding the terms "prodrug" and "solvate." Claim 1 is under examination because it is drawn to a non-elected invention. Nonetheless, for the same reasons noted immediately above, the present amendment obviates the Examiner's concern regarding the terms "prodrug" and "solvate."

Therefore, in view of the foregoing amendments and/or remarks, Applicants respectfully request the withdrawal of these rejections.

IV. CONSTRUCTIVE ELECTION

The Examiner takes the position that the claims are not limited to the elected species with regards to A and R¹. See August 8, 2003 Office Action, page 3.

The Examiner contends that A in claim 2 is assumed to be benzene in view of the election of species. In this regard, the Examiner states that "[a]ny and all carboxylic rings could not be accepted", that "[a]ll aromatic heterocyclics could not be searched", and that only "one invention per application" is acceptable under 37 C.F.R. § 1.141. Presumably, this discussion was intended for elected claims 8-14 and 27, and not non-elected claim 2. Nonetheless, the present amendment obviates the Examiner's concern because the newly added claims recite that A is "benzene optionally substituted with . . ." in accordance with the species election. The present amendment also obviates the Examiner's concern regarding R¹ because the new claims recite that R¹ is "trimethylene optionally substituted with" in accordance with the species election.

The Examiner also takes the position that claim 14 is unreadable at line 5 in view of the election of trimethylene for R¹, and thus, 1,1-dimethylethylene or 1 methylethylene should be removed. See August 8, 2003 Office Action, page 4. Again, the present amendment obviates this concern, because new claim 41, which corresponds to claim 14 (now canceled), does not recite these compounds.

Therefore, in view of the foregoing amendments and/or remarks, Applicants respectfully request the withdrawal of these rejections.

V. DISCUSSION OF THE ART

A. Rejection under 35 U.S.C. §§ 102/103

The Examiner rejects the instant invention under 35 U.S.C. § 102, as anticipated by or, in the alternative, under 35 U.S.C. § 103 as unpatentable over Dixon et al., WO/00/42031 A2 (published July 20, 2000) (*i.e.*, reference D38 in the Supplementary Partial European Search Report). See August 8, 2003 Office Action, page 4.

The rejection lacks a clear statement of rejection indicating which claims are rejected. Nor is there an indication as to what subsection of 35 U.S.C. § 102 (*i.e.*, (a)-(g)) applies. Nonetheless, Applicants traverse this rejection to the extent that either a rejection under 35 U.S.C. §§ 102 or 103 applies to the amended claims.

Dixon fails to teach and/or suggest the specific R² of the amended claims.

To anticipate a claim, a cited prior art reference must either expressly or inherently teach each and every element of the claimed invention. Verdegaal Bros. v. Union Oil. Co. of California, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987); See also, M.P.E.P. § 2131.01.

To establish obviousness, three criteria must be met. First, the prior art references must teach or suggest each and every element of the claimed invention. See In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974); In re Zurko, 111 F.3d 887, 888-89, 42 U.S.P.Q.2d 1476, 1478 (Fed. Cir. 1997); In re Wilson, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); M.P.E.P. § 2143.03. Second, there must be some suggestion or motivation in the references to either modify or combine the reference teachings to arrive at the claimed invention. See In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); M.P.E.P. § 2143. Third, the prior art must provide a reasonable expectation of success. See Vaeck, 947 F.2d at 488, 20 U.S.P.Q.2d at 1438; In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986); M.P.E.P. § 2143.02.

In this case, the cited prior art reference fails to teach and/or suggest each and every element of the claimed invention, namely, the specific R² of the claimed invention. In Dixon, in the compound corresponding to formula (II), R² is an alkyl. By contrast, alkyl is excluded from R² in formula (II) of the newly added claims. Instead, in the newly added claims, R² is “a group of the formula: -C(=R⁵)-R⁶ wherein, R⁵ is O or S, R⁶ is C1-C10 alkoxy, C1-C10 alkylthio, C6-C14 aryl-C1-C10 alkyloxy optionally substituted with” Accordingly, Dixon fails to teach

and/or suggest each and every element of the claimed invention. Thus, Dixon cannot anticipate nor render obvious the claimed invention. Applicants respectfully request the withdrawal of this rejection.

B. Discussion of the Art References Cited in the PCT/ISA/210 Search Report

The Examiner has requested the Applicants' input regarding the X designations for the references (designated D20 to D40) cited in the International Search Report and those (designated D1 to D19) of the Supplementary Partial European Search Report. See August 8, 2003 Office Action, page 4.

Applicants have reviewed the cited references with regard to the X designations and submit that none of the references anticipate the claimed invention. Applicants note the following differences between the claimed invention and the compounds described in the references cited in the International Search Report:

1. In the compounds described in D21-D23, D25-D33, and D38 that correspond to formula (II), R^2 is an alkyl. However, as discussed above, alkyl has been canceled from R^2 in formula (II) of the newly added claims;
2. In the compounds described in D21, D22, D25, and D38 that correspond to formula (II), R^6 is an alkyl. However, alkyl has been canceled from R^6 in formula (II) of the newly added claims;
3. In the compounds described in D24 that correspond to formula (II), R^6 is optionally substituted amino. However, optionally substituted amino has been canceled from R^6 in formula (II) of the newly added claims; and
4. The compounds disclosed in D20 and D34-D37 fail to describe the compound of formula (II) of the newly added claims.

Applicants note the following differences between the claimed invention and the compounds described in the references cited in the Supplementary Partial European Search Report:

1. In the compounds described in D7, D11, D17, and D19 that correspond to formula (II), R^2 is an alkyl. However, as discussed above, alkyl has been canceled from R^2 in formula (II) of the newly added claims;
2. In the compounds described in D10-D16 that correspond to formula (II), R^2 is – SO_2R^7 . By contrast, in the instantly claimed invention, R^2 is “a group of the formula:

-C(=R⁵)-R⁶ wherein, R⁵ is O or S, R⁶ is C1-C10 alkoxy, C1-C10 alkylthio, C6-C14 aryl-C1-C10 alkoxy optionally substituted with”;

3. In the compounds described in D11, D14, and D15, and D17 that correspond to formula (II), R⁶ is an alkyl. Again, as discussed above, alkyl has been canceled from R⁶ in formula (II) of the newly added claims;
4. In the compounds described in D2-D9 and D18 that correspond to formula (II), R⁶ is optionally substituted amino. Optionally substituted amino has been canceled from R⁶ in formula (II) of the newly added claims;
5. In the compounds described in D18 that correspond to formula (II), R⁶ is optionally substituted aralkylamino. However, optionally substituted aralkylamino has been canceled from R⁶ in formula (II) of the newly added claims; and
6. In the compounds described in D11 that correspond to formula (II), R¹ is ethylene or trimethylene, R⁵ is O, and R⁶ is alkoxy. By contrast, in the claimed invention R¹ is trimethylene optionally substituted with x.

Thus, in view of the above-discussed differences, Applications submit that none of the references anticipate the claimed invention.

CONCLUSION

For at least the foregoing reasons, Applicants respectfully submit that the present patent application is in condition for allowance. An early indication of the allowability of the present patent application is therefore respectfully solicited.

If Examiner believes that a telephone conference with the undersigned would expedite passage of the present patent application to issue, he is invited to telephone the undersigned at the number below.

Respectfully submitted,

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